

RUBY LAKE NATIONAL WILDLIFE REFUGE
Ruby Valley, Nevada

ANNUAL NARRATIVE REPORT
Calendar Year 1978

NATIONAL WILDLIFE REFUGE SYSTEM
Fish and Wildlife Service
U.S. DEPARTMENT OF THE INTERIOR



JIM STEVE NIKI LARRY BOB



MIKE



TOM

PERRY



LOWELL

REFUGE PERSONNEL

Larry Kline	Refuge Manager	Transferred	12/15/78
Bob Howard	Assistant Manager	Transferred	01/14/78
Mike Spanel	Assistant Manager	EOD	07/16/78
Steve Bouffard	Biologist		
Lowell Wornow	Maintenanceman	Transferred	07/21/78
Tom Bowser	Maintenanceman	EOD	12/03/78
Niki McQueary	Clerk Typist		
Jim Klingensmith	Laborer		
Perry Johnson	YACC Group Leader	EOD	07/10/78
Jeff Holm	Bio-Tech (Temp.)	03/26/78 -	09/15/78
Larry Rau	Bio-Aid (Temp.)	06/04/78 -	09/15/78

REVIEW AND APPROVALS

Stephen M. Bouffard 2/16/79

Submitted by _____ Date _____ Area Office _____ Date _____

Ruby Lake NW Refuge

Refuge _____ Regional Office _____ Date _____

TABLE OF CONTENTS

I. GENERAL

A. Introduction.	1
B. Climatic and Habitat Conditions	2
C. Land Acquisition.	2
D. System Status	2

II. CONSTRUCTION AND MAINTENANCE

A. Construction.	4
B. Maintenance	4
C. Wildlife.	4

III. HABITAT MANAGEMENT

A. Croplands	5
B. Grasslands.	5
C. Wetlands.	6
D. Forestlands	7
E. Other Habitat	7
F. Wilderness and Special Areas.	7
G. Easements for Waterfowl Management.	7

IV. WILDLIFE

A. Endangered and Threatened Species	8
B. Migratory Birds	8
C. Mammals and Non-Migratory Birds and Others.	10

V. INTERPRETATION AND RECREATION

A. Information and Interpretation.	12
B. Recreation.	12
C. Enforcement	13

VI. OTHER ITEMS

A. Field Investigations.	16
B. Cooperative Programs.	16
C. Items of Interest	18
D. Safety.	19

I. GENERAL

A. Introduction

Ruby Lake National Wildlife Refuge lies in a high mountain valley in northeastern Nevada. The refuge is bordered on the west by the 11,000 foot Ruby Mountains. The refuge lies in a closed basin; all the water arises from springs on the refuge and remains on the refuge.

Ruby Lake is one of the few permanent water bodies in northeastern Nevada; a fact that makes the refuge attractive to wildlife and people. The refuge is one of the few areas able to support water based recreation. These recreational "demands" often conflict with wildlife production.

About 12,000 of the 37,000 acres on the refuge are wetlands. The high degree of interspersion makes the marsh very attractive to nesting waterfowl especially canvasbacks and redheads. In fact the refuge is one of the major production areas in the country for these two species.



Aerial view of South Sump showing the interspersion of habitat. SHB 9-78

B. Climatic and Habitat Conditions

We had a good water supply this year. With a good snow-pack and early spring rain all the units were full, even the North Sump was flooded clear to the north boundary.

The summer was quite dry with only three substantial periods of rain, one in May and the other two in Aug. and Sept. The north sump dried out by August but had water again in Sept.

The first three frosts of the year were in mid-August, somewhat earlier than normal. The marsh froze over about November 19, and has remained frozen. The ice cover is greater in extent and thickness than last year.

C. Land Acquisition

Nothing to report.

D. Systems Status

1. Objectives

The primary refuge objective is to raise waterfowl. We are looking at ways to increase production of divers and dabblers by better management of recreation and grazing. Refuge studies are investigating the effects of recreation and other factors on diving duck production. Investigations on the effects of grazing have been postponed until recreation problems have been settled.

2. Funding

We receive funding from two programs; migratory birds (about 80%) and interpretation and recreation (about 20%). The refuge staff was the same as last year, five full time and three temporary personnel. Funding for FY 78 was a large increase over FY 77 but FY 79 was a decrease from FY 78.

<u>PROGRAM</u>	<u>1977</u>	<u>1978</u>	<u>1979</u>
1210	64,000	128,700	105,100
1240	17,000	39,200	27,800
other	<u>-</u>	<u>8,800</u>	<u>-</u>
Total	\$81,000	\$176,700	\$132,900

About \$69,000 in BLHP funds were allocated for projects in FY 1978. Much of this money was re-programmed to FY 1979 for the headquarters project. The fencing projects were part of this reprogramming. We did purchase new signs and I&R displays. The new water control structures will be postponed till FY 1979. The dike project is reported under the maintenance heading.

Projects planned for FY 1979 include the remodeling of the headquarters building and new shop. Two new houses will be built and two old houses will be remodeled. One of the old houses will be made into a bunkhouse and the old bunkhouse will be destroyed. Parts of the fence project scheduled for last year will be done by Y.A.C.C.



YACC crew painting garage.

JAK. 10-78



Final results.

SHB 10-78

*A vast improvement
Rm*

II. CONSTRUCTION AND MAINTENANCE

A. Construction

We finally received our new backhoe purchased with BLHP funds. It has been used on many projects this past year.

We completed renovation of the boat landing. We felt the previous facilities were substandard and in need of upgrading. We installed a new dock, parking barriers, boat tie-ups, and launching ramp. The parking area was expanded and graveled. Fencing was re-routed and the IR display was positioned in a better location. All the work was done by the refuge staff with Y.A.C.C. assistance.

Contractors began work in Oct. to raise the height of about 3 miles of dike. Due to their poor planning they were unable to complete the job before cold weather set in and whether they will complete the job in spring is anyone's guess.

Preliminary planning on the new headquarters complex has been completed. It would involve remodeling the refuge headquarters and the new shops and construction of two new houses and rehabilitation of the other residences.

B. Maintenance

We installed two new cattleguards and replaced another. They have substantially reduced problems of cattle trespass and people not closing gates.

The Y.A.C.C. crew began painting all refuge buildings. However, cold weather set in before they could finish and we have buildings of two different colors now. We decided to get away from the institutional look, white with green trim. Our buildings are or will be light beige with chocolate brown trim. This color pattern seems much warmer than the old white and green.

C. Wildfire

None

III. HABITAT MANAGEMENT

A. Croplands

None

B. Grasslands

Four permittees were allowed about 5,500 AUM's of grazing on about 13,700 acres. Another 10,000 acres have been rested for up to 10 years and someday may be put into a rest rotation grazing system. However, more information is required before a new grazing plan is written.

Several new cross fences were built to obtain better control on several small hayfields. Some fields will not be hayed each year to provide better nesting cover.

We are beginning to rehabilitate some of the springs abused by heavy cattle use. Narciss Spring was cleaned out and fenced off to keep cattle out. Water was piped outside the fence to a tank to allow cattle access to water.



Narciss Spring - before.

SHB 9-77



Narciss Spring - after.

JAK 9-78

check for possible
significant
changes
No. 10
CP

C. Wetlands

We followed the water management plan written by Bob Howard last year. It has raised some controversy among people who think we should manage for recreation not wildlife.

Unit 13 and the East Sump were drawn down again this year. They will be filled this winter. Unit 10 will probably be drawndown after the nesting season and will remain dry for the following year.

There has been some discussion of drawing down the South Sump (7,000 + acres) in 1979. This was met with an immediate outcry because it supports all boating and most of the fishing on the refuge. In early September we invited several experts on wetland ecology to Ruby Lake National Wildlife Refuge to review the situation. The committee recommended that the South Sump be drawndown but baseline information should be gathered first. The Northern Prairie Wildlife Research Center and Ruby Lake National Wildlife Refuge will propose a cooperative research plan to gather this information.



Drawdown consulting group; L to R, Pat Coffin, Jess Low, Larry Kline, Frank Bellrose, John Kadlec, Jerry Tash. Not shown: George Swanson, Charles Ziebell, Ed Collins.

JWH 9-78

Prescribed burns were made around Unit 21 and on several islands in the South Sump in early spring, 1977. The areas had suitable nesting cover that same year and ideal nest cover in 1978. These areas were mixtures of blue wild rye, salt grass, alkalai cordgrass, and Baltic rush. The fringes of bullrush around those islands were also burned in 1977. The bullrush in these areas was not dense enough to attract nesting diving ducks in 1977 or 1978. Apparently at least two years of growth are required before the stands become dense enough to attract nesting diving ducks.

D. Forestland

None.

E. Other Habitat

Nothing to report.

F. Wilderness and Special Areas

Ruby Lake National Wildlife Refuge has been designated as a National Natural Landmark.

G. Easements for Waterfowl Production

None.

IV. WILDLIFE

A. Endangered Species

Several bald eagles were observed on the refuge in late fall and early winter. No peregrine falcons were seen in 1978.

Prior to the marsh becoming a National Wildlife Refuge it harbored an endemic species of fish, the relic dace (Relictus solitarius). The fish was abundant in the early thirties. It began to decline after largemouth bass, various species of trout and speckled dace were introduced, but still occurred at isolated locations on the refuge in the mid 60's. We surveyed the entire refuge this year and were unable to locate a single specimen. Apparently the species still exists in other locations. The status of the species is under review and will probably be listed as threatened.

B. Migratory Birds

1. Waterfowl

Waterfowl production decreased slightly from last year. Most of this decline can be attributed to a large decline in the number of young coots produced. There were no disease outbreaks this year.

a. Swans

About 12 pairs of trumpeter swans were observed on Ruby Lake National Wildlife Refuge and Franklin Lake, a private marsh about 9 miles north of the refuge. Eight cygnets were observed early in the summer but only two are known to have survived to the flight stage. We caught two adult females with broken wings; both were shipped to a captive flock in Minnesota.

About half of the 45 or so birds in the population apparently nest away from the refuge. We don't know where but they return in the fall with cygnets. We will initiate a marking program to learn their movements.

b. Geese

This year Canada goose production was up to

*Canada goose
production
increased*

220 from 80 in 1977. Last year was a catastrophic year for nesting geese. The peak fall population was just over 200, down slightly from 1977. We saw only one snow goose this year.

c. Ducks

Generally production of most species of ducks increased. However, production of canvasbacks declined from 1977.

Fall migrations brought more mallards and fewer canvasbacks to the refuge than in 1977.

d. Coots

Coot production has dropped sharply in the past two years, from 9,000 in 1976, 7,500 in 1977 to 4,500 in 1978. This is about normal; 1976 was a boom year for coots.

2. Marsh and Water Birds

Use days of this group was about the same as last year. Great blue herons and black-crowned night herons nested on three islands in the South Sump. There were about 30 to 40 nests of each in the bullrush on these islands. There was a large nesting colony of wading birds in Unit 14. This colony had about 200 white-faced ibis, 75 snowy egrets and 100 black-crowned night heron nests. Other nesting species of this group included pied-billed and eared grebes, American bittern, sora rails and about 15 pairs of greater sandhill cranes.

3. Shorbirds, Gulls, Terns and Allies

Use days of this group declined from last year and was about the same as 1976. Generally we saw fewer shorebirds migrating through in the fall and few black-necked stilts all year. Nesting species include long-billed curlew, Wilson's phalarope, willet, American avocet, spotted sandpiper, and Forster's and black terns.

4. Raptors

Golden eagles, prairie falcons, marsh hawks and

long-eared, and great-horned owls were year round residents; all nested on or near the refuge. American kestrels, red-tailed hawks and short-eared owls nested in the area but wintered elsewhere. All three accipiters were observed during the fall months. About 70 turkey vultures roosted near the refuge; these birds were not nesting.

We still run a raptor rehabilitation center. Our success at returning birds to the wild was not as high as last year. One of the local veterinarians donates his time to work on the birds. The golden eagle that we have currently is one of his patients. He put a steel pin in the birds leg. The pin and splints have been removed and the bird is recovering the use of his leg and talons.

5. Other Migratory Birds

The aspen, willows and cottonwoods along Cave Creek at the refuge headquarters are the best to observe songbirds. The resident population is rather limited but a good variety can be seen during the spring and fall migrations.

C. Mammals, Nonmigratory Birds and Others

1. Game Mammals

Mule deer wintered on the foothills adjacent to the western side of the refuge and they used the refuge extensively. In December the Nevada Fish and Game Department counted about 1,500 deer in about 12 miles along the refuge boundary.

Coyotes were abundant on the refuge and bobcats are quite common also. No hunting or trapping is allowed for these two species on the refuge.

Four trapping permits were issued to control excess muskrats. The total quota for the four permits was 3,000 animals.

2. Other Mammals

These mammals are present on the refuge; porcupine, deer mice, mountain cottontail, black-tailed jack-rabbit, beaver, badger, spotted skunk and several species of bats and rodents.

3. Resident Birds

Two flocks of chukars (about 70 birds) were present on the refuge this fall. One flock was occasionally seen within 100 yards of the residences. There were several flocks of sage grouse on the refuge (150-200 birds). We located one strutting ground this spring; there should be one or two other grounds on the refuge.

4. Other Animal Life

The most important species in this group are the fish. The stunted, overabundant largemouth bass are the most popular fish on the refuge. They are panfish rather than gamefish here (average size about 10 in.). People will drive for hundreds of miles to catch a limit of 20.

There are three species of trout in the marsh; brook, brown and rainbow trout. Rainbows are the most common and average 2-3 lbs. in the South Sump.

V. INTERPRETATION AND RECREATION

A. Information and Interpretation

1. We only conducted two tours this year, a YCC group from Mountain City, Nevada, and a group of cub scouts from Ruby Valley.

The summer meeting of the Nevada Chapter of The Wildlife Society met at the refuge in early July. About 30 members with their families attended the meetings. A special use permit was issued to allow some members to camp near the refuge headquarters. Activities included the business meeting, barbecue, slide shows and a tour of the marsh.

2. Off Refuge

Manager Kline attended a number of meetings in Elko concerning our water management practices and boating regulations. Several news releases were made to the local newspapers and we wrote monthly columns for the Ruby Valley News.

Two refuge leaflets were printed this year. We updated our bird list and issued a pamphlet explaining our boating regulations. The latter became obsolete before many were used because the court decisions invalidated our regulations.

B. Recreation

1. Wildlife Oriented

Fishing accounted for nearly all the wildlife oriented recreation. Waterfowl hunting, photography, and wildlife observation were minor activities. Most of this fishing was concentrated from June through September and most of the fishing was done from boats.

2. Non Wildlife Oriented

Activity hours of waterskiing and pleasure boating were drastically reduced this year. Boats with motors were not allowed until July 1st. On June 30th, a federal court in Washington, D.C. issued an injunction against the use of motors larger than 10 HP. The only pleasure boating and water skiing were done in violation of this order, and amounted to less than 1,000 activity hours.

Camping adjacent to the refuge boundary is still a problem. The campers keep wildlife away from the springholes and keep ospreys from using the only potential nest site on the refuge. Many of the campers also dump their garbage over the fence on refuge property. We plan to solve some of these problems by rerouting the west boundary fence in some locations.

C. Enforcement

It was a lively summer for law enforcement activities this year. Power boating (unlimited horse power) was due to open on July 1st. About 2 P.M. on June 30th, we received a call from Washington, D.C. stating that the Defenders of Wildlife had sought and received an injunction from a federal court in Washington, D.C. prohibiting the use of motors larger than 10 horsepower. There were already hundreds of people here for the Fourth of July weekend and more on the way.

We informed as many people as possible that afternoon. Word of the injunction spread fast. Next morning several hundred irate people showed up to practice their right of civil disobedience.

Several federal game agents were present Friday afternoon and by Saturday morning there were thirteen on hand. Dick Branzell (SRA, Reno, Nevada) was in charge of all enforcement activities. He did an excellent job at handling an explosive situation. Everything was orderly and there was no violence or injuries.

The agents did not attempt to physically prevent people from using large motors; they simply issued citations.

To have physically arrested people would have been impractical and would have triggered a confrontation. The nearest magistrate was in Reno over 250 miles away; the local magistrate conveniently left town for three weeks. The people were cited for a misdemeanor and a felony (disobedience of a federal court order). In all, over 200 citations were issued to about 140 individuals. To my knowledge no one has been prosecuted yet.



Confrontation at the boat landing.

JAK 7-78

The lawsuit was heard in Washington on the 10th of July. The judge was not pleased with the way we enforced his injunction and ordered that anyone using a large motor be placed under arrest. After the first few days the crowds died down and everyone declined to use large motors when informed of its consequences.

The judge found in favor of the Defenders of Wildlife and ordered the Department of the Interior to publish new regulations within five days. The new regulations differed little from the old ones; unlimited horsepower was allowed after August 1st instead of July 1st. The Defenders of Wildlife filed another injunction and won again. We finally got a 10 horsepower limit.

The 1979 boating regulations will allow motorless boats in on June 15th and motor boats (10 HP limit) on August 1st. There will be no zoning in the marsh. In the past zoning has been complex leading to confusion of boaters; it was also difficult to post and enforce.

There will probably be more organized protests next summer. Currently there are several attempts in progress to remove the marsh from federal jurisdiction through legislative and judicial means.

VI. OTHER ITEMS

A. Field Investigations

The canvasback/redhead study initiated in 1977 was continued this year. The objectives were to document adverse impacts caused by boating and gather information on their nesting ecology. There appeared to be a movement of nesting birds back into an area where they were excluded because of early motor boating. This study will probably be continued for several years.

B. Cooperative Programs

1. Young Adult Conservation Corp

The YACC (Young Adult Conservation Corp) Program at Ruby Lake was started with purchasing materials and items by refuge personnel in March. The first enrollees were picked up in June and the YACC Group Leader in early July.

The initial projects of the YACC was to help prepare ground and install their residential and kitchen trailers which would house eight. Since there had been thirteen enrollees hired, arrangements were made with the state fish hatchery to house some of the enrollees. Enrollees worked five days a week and went home on the week-ends.

The YACC early summer months projects included helping to construct a boat dock for the boat landing at Ruby Lake. The YACC helped to gravel the parking lot, put in parking barriers and boat tie-ups. Later, they helped to install the boat dock and launching ramp. Also during this time, the YACC were involved in aiding the refuge in general maintenance.

During the month of July, the YACC began to aid the refuge biologist with his nesting study. This involved YACC enrollees going out in the marsh in search of redhead and canvasback nests. The YACC also constructed a decking for their trailers. Range fence construction began as part of the refuge grazing plan. The YACC purchased materials and by the end of the summer had completed about two miles of new range fence and repaired 20 miles of old fence. Also in support of the refuge grazing plan, the YACC aided the refuge in installation of three cattleguards, and constructed a horse corral.

Environmental projects during the summer included rehabilitation of Narciss Spring which involved cleaning out, building a small earth dam with a culvert, and constructing a range fence around it to protect it from cattle. The level of water at another pond was raised to give more surface area for waterfowl and other animals. The YACC was also involved in aiding the biologist in search of Relic Dace, once found in springs on the Ruby Lake Refuge. A wide variety of trees were planted around the refuge headquarters by the YACC.

The YACC has two enrollees aid in the office. One is located at the Elko Office and serves as secretary to the refuge manager and Animal Damage Control which is also located in the building. Another enrollee aided the refuge clerk and YACC Group Leader at the Ruby Lake Headquarters.

The YACC also worked with the Nevada State Fish & Game at the Gallagher State Fish Hatchery. The major projects with them included construction of two 24' x 24' garages and cleaning their rearing tanks to prepare for painting.

As summer ended and fall began YACC enrollment dropped due to enrollees returning to school. Fall projects included painting the refuge headquarters, garage and assistant manager's quarters, aiding the refuge with their shop reorganization, raptor rehabilitation, and other general maintenance. The YACC also has one enrollee doing much of the refuge mechanical work in the shop.

Future projects for the next calendar year include fencing, aiding the refuge in a bathymetric survey of Ruby Marsh, aiding the refuge biologist with his nesting study, and possible construction of a storage building for flammable items. The YACC will continue to aid in general maintenance and in the office with secretarial work.

2. Other

The Gallagher Fish Hatchery, operated by the

Nevada Department of Fish and Game is located on the refuge. It is a trout hatching and rearing facility with a maximum capacity of 200,000 lbs. All raceways have been screened to minimize depredation by birds. A new brooding facility and rehabilitation of some ponds is scheduled for next year.

We maintained a weather station in cooperation with the National Weather Service.

Other cooperative programs included the Nest Card Record and Colonial Bird Survey with Cornell University. The refuge supplied regular reports to the magazine, American Birds, and performed a Breeding Bird Survey in cooperation with the Migratory Bird and Habitat Research Laboratory.

This year we started a Christmas bird count at the refuge. The results were good considering the extremely limited turn out.

C. Items of Interest

1. Personnel Changes

We have had lots of personnel changes at Ruby Lake this year. Manager, Lawrence G. Kline, transferred to Endangered Species in Washington, D.C. on December 15th.

Assistant Manager, Robert Howard, transferred to the Twin Cities Area office in Minneapolis, Minnesota on January 14th. Assistant Manager, Michael Spanel, transferred to Ruby Lake National Wildlife Refuge from Ecological Services in Lebanon, Ohio on July 16th.

Maintenanceman, Lowell Wornow, transferred to Nisqually National Wildlife Refuge in Olympia, Washington July 21st. Maintenanceman, Thomas Bowser, transferred to Ruby Lake Wildlife Refuge from Fallon Naval Base on December 3rd.

2. Training

Manager, Larry Kline, attended Water Law Short Course in Davis, California in mid-February, he attended Law Enforcement Training in Glynco, Georgia in March, and he attended a Citizen Participation Course in Sacramento in mid-June. Assistant Manager, Mike Spanel and Biologist, Steve Bouffard attended a Waterfowl Disease and Banding Workshop in Klamath Falls, Oregon in late September. Steve also attended the Refuge Manager Training in Beckley, West Virginia from mid-January to mid-February. Maintenance man, Lowell Wornow, attended Law Enforcement Training at Glynco, Georgia during January. Clerk, Monica McQueary attended a Y.A.C.C. conference in Sacramento in late April.

D. Safety

Safety meetings were held periodically. Consecutive lost time accident free days have increased to 8401 days this year. However, we did have a few minor accidents, cuts, broken fingers, puncture wounds from eagle talons, etc. *not in 82*

With the new boat regulations, safety hazards to the public have decreased. The ten horsepower limit on motors will reduce the danger of collisions and swampings. The June 15th opening date for motorless boats will reduce other dangers. Early summer storms arrive with little warning and severe conditions. It is impossible to row or paddle a boat against the wind and people can become stranded. Last summer we rescued four people in one severe snow squall in early June. One of the persons involved was in the early stages of hypothermia.

E. Credits

Steve Bouffard Sections I-V, VI(A,B2,D,E)
Monica McQueary Sections VI-C
Perry Johnson Section VI-B1
Laura Pilotte, Typing